

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Shane Clifford

Examiner: Michael Yigdall

Serial No.: 10/075,181

Group Art Unit: 2192

Filed: February 13, 2002

Docket: 303.759US1

Title: FEATURE MODELING APPLICATION

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

The applicant requests review of the final rejection in the above-identified application.
No amendments are being filed with this request.

This request is being filed with a Notice of Appeal.

The review is requested for the reason(s) stated below:

§103 Rejection of the Claims

Claims 1-3 and 5-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Coad et al. (U.S. 6,851,107; hereinafter "Coad") in view of Takano (U.S. 6,591,152; hereinafter "Takano") in view of Pruitt (U.S. 6,179,490; hereinafter "Pruitt").

Claims 9-12, 14-20, 22-26, 28-32, 34-38 and 40-51 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Coad in view of Takano to Gupta et al. (U.S. 5,825,651; hereinafter "Gupta").

Both groups of rejections rest on an identical combination and application of Coad in view of Takano. Applicant respectfully traverses the rejection of claims 1-3, 5-7, 9-12, 14-20, 22-26, 28-32, 34-38, and 40-51 because the combination of references fails to teach or suggest the entirety of the claims, namely that the presently claimed feature diagrams are modifiable instead of static as described in Coad, and because the asserted static component view of Coad teaches away from the modifiable feature diagrams in the present claims.

The subject matter of the present application, and pending claims, provides various embodiments that utilize a relationship between modifiable feature diagrams and state charts to generate models and eventually computer-executable code. The figures include example feature diagrams and statecharts.

Feature diagrams are utilized to help produce deterministic statecharts. Design choices and changes are accomplished by entering modifications to feature diagrams. The feature diagrams are associated with statecharts and as the feature diagrams are modified, corresponding changes are made to the associated statecharts, producing deterministic statecharts. Application Summary, Page 2, line 23 – page 3, line 3. Further, a feature model is a coherently organized model of the common and variable properties of concepts and their interdependencies within a system family. The feature model is used to select optional and alternative features for inclusion in a concrete implementation of a concept in a system that is part of the system family. Page 15, last paragraph – page 16, first paragraph.

Once all the chosen modifications to the feature diagram(s) have been performed, the resulting, newly-created statechart(s) will be deterministic and can be advantageously utilized to generate computer-executable code. Application Summary, Page 2, line 23 – page 3, line 3. Please note that feature diagrams are directly modified in the ordinary course of development.

In contrast, Coad describes a software development tool that is collectively broken into three views. (Col. 16, lines 58-67). These views include a static view, a dynamic view, and a functional view. *Id.* The static view also is described as including a fourth view “mingled” therein called an architectural view. Col. 17, lines 33-47. The architectural view is modeled using package, component, and deployment diagrams. *Id.* The component diagrams are referenced in the Final Office Action as providing an equivalent teaching of a feature diagram. Final Office Action page 3, last paragraph – page 4, first paragraph; page 7 lines 6-9. However, component diagrams are part of the architectural view. The architectural view is part of the static view and is therefore static as well. Thus, the described component diagrams, being part of the static architectural view, are also static.

Applicant does acknowledge that Coad does describe the software development tool providing a simultaneous view of both source code and a graphical representation and further that a modification of one view is simultaneously reflected in the other view. (col. 4, lines 38-45). However, Applicant respectfully submits that because Coad distinguishes between static views and dynamic views, that static component diagrams can not be reasonably considered to be modifiable. Coad does not provide any alternate definitions as to the usage of the terms static and dynamic when referring to the views. Applicant respectfully submits that one of skill in the

art would consider a static view to be unchanging and a dynamic view to be changing. Thus, Applicant further submits that because the asserted component diagrams are static as established above and in view of Coad choosing to distinguish between static and dynamic, the only reasonable interpretation of the teachings in Coad is that the component diagrams can not be changed.

Applicant therefore respectfully submits that the claims in their present form are patentable over Coad in view of Takano, and in further view of Pruitt or Gupta, because the combination of references fails to teach or suggest all of the claim elements. M.P.E.P. § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)) (The references, when combined, must teach or suggest all the claim elements.).

For example, the claimed feature diagrams, independent claims 9, 43, 44, and 45 include “modifying the feature diagram, including selecting one or more features from a universe of predefined features.” The claimed feature diagrams are therefore changeable, which is contrary to the static nature of the asserted equivalent teaching of component diagrams in Coad. Independent claim 17 includes similar language as claims 9, 43, 44, and 45.

Similarly, independent claims 1 and 6 both provide “adding a state to the potential statechart for each state-type feature added to the feature diagram.” The claim therefore includes modifying a feature diagram by adding a “state-type feature.”

Independent claim 25 includes the distinguishing language of “one or more feature diagrams, wherein the one or more feature diagrams includes one or more features selected from a universe of predefined features.” Applicant respectfully submits that the “selected features” language indicates that the one or more feature diagrams of claim 25 are therefore capable of modification. Independent claims 31 and 37 are even more explicit by providing “an editor capable of making modification to the . . . feature diagrams.”

Applicant further submits that Takano, Pruitt, and Gupta fail to cure the deficiency of Coad by also failing to describe an equivalent teaching of a modifiable feature diagram.

Thus, Applicant respectfully submits that the combination of Coad in view of Takano and in further view of Pruitt or Gupta fails to teach or suggest the entirety of the claims.

Applicant further submits that the rejection of the claims is based on an improper *prima*

facie showing of obviousness – namely that the described static nature of the asserted component diagrams in Coad teaches away from the present claims.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). To do that the Examiner must show that some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.*

A factor cutting against a finding of motivation to combine or modify the prior art is when the prior art teaches away from the claimed combination. A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path the applicant took. *In re Gurley*, 27 F.3d 551, 31 USPQ 2d 1130, 1131 (Fed. Cir. 1994); *United States v. Adams*, 383 U.S. 39, 52, 148 USPQ 479, 484 (1966); *In re Sponnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244 (C.C.P.A. 1969); *In re Caldwell*, 319 F.2d 254, 256, 138 USPQ 243, 245 (C.C.P.A. 1963).

Applicant respectfully submits that one of skill in the art would be discouraged by the static nature of the component diagrams. For example, if one were looking to the prior art to find suggestions to make a feature diagram that allows modifications, the static nature of the component diagrams in Coad would discourage such a person. Or if a person were looking to develop an alternate tool to generate computer code or state charts, the static nature of the component diagrams in Coad would lead in a static diagram direction instead of the modifiable diagram direction the Applicant took. Thus, Applicant respectfully submits that Coad teaches away from the present claims. Accordingly, the attempted *prima facie* showing of obviousness is improper.

Applicant therefore requests withdrawal of the 35 U.S.C. § 103(a) rejections of claims 1-3, 5-7, 9-12, 14-20, 22-26, 28-32, 34-38, and 40-51 because the combination of references fails to teach or suggest a modifiable feature diagram as claimed and, alternatively, the *prima facie* showing of obviousness is improper due to Coad teaching away from the present claims.

CONCLUSION

The applicant respectfully submits that all of the pending claims are in condition for allowance, and such action is earnestly solicited. The Examiner is invited to telephone the below-signed attorney at (210) 308-5677 to discuss any questions which may remain with respect to the present application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date March 5, 2007

By / Mark V. Muller /
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 5 day of March 2007.

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